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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,483

01/30/2006

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10873.1854USWO

3585

52835

7590

05/11/2009

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EXAMINER

REDDY, KARUNA P

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,483	Applicant(s) SAITO ET AL.	
	Examiner KARUNA P. REDDY	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment filed 3/16/2009. Claims 1, 7, 13, 20, 31 and 43 are amended; and claim 3 is cancelled. Accordingly, claims 1-2 and 4-50 are currently pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. Claims 1-2, 5-6, 11-12, 15-16, 18-19, 24-25, 38-39, 41-42, 47-48 and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Jonas et al (US 6, 395, 830 B1).

Jonas et al disclose a hydrophilic, highly swellable polymer coated with reactive water-insoluble film-forming hydrophobic polymers (reads on hydrophobic substance in the form of film i.e. coated) and an additional reactive constituent which can react with carboxyl groups of carboxylate anions and form additional crosslinks on the particle surface and the use of the polymer particle in hygiene articles (abstract). It is noted that hygiene articles comprise fibrous material. The highly swellable polymers (read on the crosslinked polymer and hydrophilic material D of present claims) are constituted of monoethylenically unsaturated monomers and polyunsaturated monomers acting as crosslinkers (column 5, lines 4-10).

The reactive component capable of reacting with carboxyl group or carboxylate groups include polyhydric alcohol such as glycerol (column 5, lines 20-25) and read on

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the diffusing-penetrating agent of present claims. Suitable hydrophobic polymers are homo- and copolymers of polysiloxanes (read on the hydrophobic substance of present claims) having randomly distributed units including functional amino groups which interact with acid groups and the interaction may be a chemical bond or an electrostatic interaction and reads on the connection RC of present claims (column 6, lines 26-32). The hydrophobic polymers have a viscosity between 350 and 10,000 mPa.s (column 7, lines 7-10) and are used in amounts of from 0.005 wt% to 2 wt% (column 7, lines 32-36).

Coating of the highly swellable polymer using a multifunctional reactive compound resulting in an increase of the crosslink density at the surface may be effected subsequent to applying hydrophobizing agent onto the highly swellable polymer and postcuring results in fixation of the hydrophobic polymer (column 8, lines 42-55) i.e. hydrophobic substance is contained in the inside of water absorbent particle produced because of crosslinking after coating the hydrophilic polymeric particle with hydrophobic substance.

Therefore, Jonas et al anticipate the present claims.

Claim Rejections - 35 USC § 103

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takai et al (US 6, 284, 362).

Takai et al disclose water absorbent composition (abstract) in a particle form (column 4, line 8) and has an diffusion absorption speed of 25 to 65 ml/g (column 17, lines 22-24) i.e. diffusion absorption amount of 25 to 65 ml. Declaration submitted by

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applicant on 3/16/2009, under 37 CFR § 1.132, shows the diffusion absorption amount for example 26 (in Takai et al) to be 43 ml.

Takai fails to disclose a water absorbent composition with a diffusion absorption falling within the claimed range of 45-70 ml.

However, it is the examiner's position that instantly claimed amount of 45 ml (low end of the range) and that taught by Takai et al i.e. 43 ml in example 26 (based on the Declaration submitted, by applicant on 3/16/2009, under 37 CFR § 1.132) are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) where, despite a slight difference in the ranges, court held that such a difference did not "render the claims patentable," or, alternatively, that "a *prima facie* case of obviousness exists where the claimed range and prior art range do not overlap, but are close enough so that one skilled in the art would have expected them to have the same properties."

5. Claims 4, 7-10, 14, 17, 20-23, 26-37, 40, 43-46 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonas et al (US 6, 395, 830 B1).

The discussion with respect to Jonas et al in paragraph 4 above is incorporated here by reference. Furthermore, the swelling rate is dependent on the percentage of hydrophobic polymer and the absorption rate can thus be controlled directly through the amount of hydrophobic polymer (column 16, lines 54-58). The gel like polymer is milled and screened for the grain fraction of 150 to 850 microns (column 13, lines 20-23).

Jonas et al is silent with respect to diffusion absorption amount and absorption time (Z); properties of the absorbent resin particles and hydrophobic substance; weight

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average particle size of water-absorbent resin and volume average particle size of hydrophilic material.

However, given that absorption rate is dependent on the amount of hydrophobic polymer, it is a matter of routine experimentation to get the desired absorption amount at a specified absorption rate by varying the amount of hydrophobic polymer i.e.

hydrophobic substance used and would have been well within the skill level of, and thus obvious to, one of ordinary skill in the art. Furthermore, instantly claimed amount of 45 ml (low end of the range) and that taught by Takai et al i.e. 43 ml in example 26 (based on the Declaration submitted, by applicant on 3/16/2009, under 37 CFR § 1.1.32) are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) where, despite a slight difference in the ranges, court held that such a difference did not “render the claims patentable,” or, alternatively, that “a *prima facie* case of obviousness exists where the claimed range and prior art range do not overlap, but are close enough so that one skilled in the art would have expected them to have the same properties.”

With respect to properties of absorbent resin particles and hydrophobic substance, given that prior art teaches / discloses essentially the same composition as that of the claimed, one of ordinary skill in the art would have a reasonable basis to believe that the absorbent resin composition of prior art exhibits essentially the same properties. Since PTO cannot conduct experiments, the burden of proof is shifted to the applicants to establish an unobviousness difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

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With respect to weight/volume average particle size, given that particle size of hydrophilic polymer overlaps with the particle size of present claims and water absorbent particle is principally made of the hydrophilic polymer, one of ordinary skill in the art would have a reasonable basis to believe that the weight average and volume average particle diameter of present claims would be possessed by the composition of Jonas et al. Since PTO cannot conduct experiments, the burden of proof is shifted to the applicants to establish an unobviousness difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

Response to Arguments

6. Applicant's arguments filed 3/16/2009 have been fully considered but they are not persuasive. Specifically, applicant argues that (A) method of measuring the diffusive absorption speed of absorbent composition of Takai is different from that of present claims; (B) Jonas fails to disclose that the absorbent resin i.e. swellable polymer covers the hydrophobic substance; (C) Jonas fails to disclose the crosslinked polymer (A) that includes a water-soluble monomer in addition to the swellable polymer and the absorbent resin covers the hydrophobic substance; (D) the hydrophobic polymer of Jonas is spreading and fixed on the swellable polymer and is not included in the swellable polymers; (E) Jonas fails to disclose that the hydrophobic substance is a film or bead; and (F) Jonas fails to disclose that swellable polymer i.e. absorbent resin particle is obtained by mixing the hydrogel of the crosslinked polymer and hydrophobic connection.

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With respect to (A), firstly, it is noted that present claims are directed to a product and not process. Secondly, the features upon which applicant relies (i.e., "diffusion absorption amount of claim 13 is the volume of saline absorbed by the sample that is placed in a container into which the saline is poured") are not recited in the rejected claim(s). Finally, even if the process steps are included in the product claims, court held that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

With respect to (B) and (D), applicant's attention is drawn to Jonas et al wherein it teaches that - to improve absorption under pressure polymerizates obtained are reacted with surface crosslinkers each of which can react with at least two carboxyl groups of the hydrogels to give covalent crosslinking on the surface (col. 10, lines 53-58), and it is possible to coat the hydrophobic polymer and multifunctional compound successively onto the highly swellable polymer and carry out the surface crosslinking (col. 9, lines 5-10). Thus, it is the examiner's position that hydrophilic polymer is coated with the hydrophobic substance which is subsequently surface crosslinked in the presence of multifunctional compound which covalently bonds to the carboxyl groups of hydrophilic polymer and is part of the absorbent resin particle covering the hydrophobic substance.

With respect to (C), present claims only require that material "D" be obtained by coating or impregnating "d1" or "d2" with a hydrophobic substance "C" and part or

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entirety of "C" be contained in the inside of each particle, which particle comprises crosslinked polymer "A" and hydrophobic substance "C". It is the examiner's position that these limitations are met by teachings in Jonas et al as set forth in the rejection in paragraph 3 above. Applicant's attention is also drawn to examples, in Jonas, wherein the crosslinked polymer is formed from acrylic acid and one skilled in the art would know that acrylic acid is a water soluble monomer i.e. crosslinked polymer includes water-soluble monomer.

With respect to (E), it is the examiner's position that once hydrophilic swellable polymer is coated with hydrophobic substance, the hydrophobic substance is in the form of a film on the surface of hydrophilic swellable polymer.

With respect to (F), firstly, applicant's attention is drawn to examples wherein silicone oil (a hydrophobic substance) is applied at 1000 rpm i.e. hydrophobic substance is applied while spinning at high speeds which read on mixing the polymer and hydrophobic substance. Secondly, claims are written in product-by-process form and court held that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Conclusion

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. P. R./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796